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Getting 'Smart'

NATO Hopes to Curb Nuclear Peril by Using 'High-Tech' Devices

New Conventional Weapons Would Halt an Invasion By Striking Behind Lines

A Fancy Airborne Radar

By GERALD F. SEIB

Staff Reporter of THE WALL STREET JOURNAL

WASHINGTON—Some call them smart weapons. Others know them as magic bullets. Around the Pentagon, they are known simply as "ET"—for "emerging technologies."

They are futuristic weapons systems. One, for instance, would electronically guide a missile behind enemy lines to unleash a shower of small, sensor-guided nonnuclear warheads on tanks and other targets. Enthusiasts on both sides of the Atlantic predict that such conventional weapons will greatly reduce the chances of nuclear war in Europe. Using them, proponents say, the North Atlantic Treaty Organization will have new power to stop the Soviet bloc's superior ground forces without resorting to nuclear arms.

However, two years after the Reagan administration and its NATO allies officially pledged to pursue these new dream weapons, their development is threatened by political, bureaucratic and technical obstacles. In Western Europe, governments balk at increasing defense budgets to develop the expensive technologies, and some officials argue that funds would be better spent on less glamorous improvements. In the U.S.,



early tests of some new technologies have yielded disappointing results, and development is plagued by apathy and feuding within America's armed services.

The Hoopla Factor

"One must always be skeptical of these grandiose hopes," warns former U.S. Defense Secretary James Schlesinger. "There's a great deal of hoopla and commercial exploitation. When you get through spending the money, you may actually have reduced the effectiveness of your forces because these things are so costly."

Even Sen. Sam Nunn, ranking Democrat on the Senate Armed Services Committee and an ET enthusiast, warns, "Unless the administration gets the services marching to the top leadership program on ET . . . you're not going to see much progress."

Reagan administration officials are upbeat about progress on developing smart weapons for NATO. Indeed, the U.S. won a victory within the alliance last month, when it persuaded NATO defense ministers to agree on a list of 11 advanced technology projects the NATO countries will pursue jointly.

But that list, produced two years after NATO heads of state pledged to develop emerging technologies, represents only a preliminary program, and many Europeans still don't share the Reagan administration's enthusiasm. Geoffrey Pattie, Britain's minister for defense procurement, warns that ET weapons aren't a "panacea" and says it is "unrealistic" to expect substantial increases in national defense budgets to pay for them.

The Numbers Game

American Defense Secretary Caspar Weinberger argues that the Western alliance must capitalize on high technology to offset the Soviet Union's clear superiority in conventional forces in Europe. "The Soviets and the Warsaw Pact are always going to have a big edge in active-duty, readily available, trained numbers," he says. "Therefore it is extremely important that one way or another we multiply and strengthen through technology the forces we have."

The debate over ET weapons, and their cost, seems likely to dominate NATO discussions for several years. The U.S. thinks the time is ripe for introducing non-nuclear alternatives; after haggling for five years over the installation of new medium-range nuclear missiles, NATO's Western Europe members remain unhappy about the prospect of using nuclear devices. But their economies still are languishing, and more defense spending, for ET weapons, means hard political choices. No one is forgetting the Soviet bloc's big advantage in conventional forces.

By standard NATO estimates, the Warsaw Pact has twice as many troop divisions, 29,000 more tanks and 48,000 more armored vehicles in Europe than does NATO. For three decades, the West has compensated with a strategy of "flexible response," the ultimate reaction being use of America's nuclear weapons to stop a Soviet conventional drive into Western Europe. The strategy has given West Europeans a security umbrella for a bargain price; they haven't had to pay for expensive conventional arms to match those of the Soviet bloc.

But these days, neither military strategists nor ordinary Europeans are very comfortable with that strategy. The Soviet Union has matched America's once-superior nuclear arsenal, raising doubts about Western nuclear strategy. As a result, "Europeans are beginning to talk for the first time about conventional defense," says Steven Canby, a defense analyst at the Woodrow Wilson International Center, a research institution in Washington.

The U.S. strategy for ET weapons has been shaped in large part by Gen. Bernard Rogers, commander of NATO forces, who argues that high-technology conventional weapons would let the West strike deep behind Warsaw Pact lines and stop "second echelon" troops poised to follow the first wave in an invasion strike.

The U.S. is developing a "deep-interdiction" system for this task. A highly sophisticated new radar called JSTARS would be loaded on a plane, whence it would peer into Soviet-bloc territory. The radar would be able to locate and track moving targets, such as an advancing tank formation.

The radar would flash information about the tanks to a computer-packed command center that could combine the radar information with other intelligence. A commander there, deciding that the tanks should be destroyed, would launch a missile called a JTACMS, now being developed by Martin Marietta Corp. and LTV Corp. It would travel 100 kilometers or more toward enemy targets, guided by periodically updated readings from the airborne radar.

Upon reaching the convoy, the missile would rain down as many as several dozen small warheads. Each warhead would have an infrared, or heat-seeking, sensor, which would guide it directly to an enemy tank or

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